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## On Afrotropical Coleophoridae (I) (Lepidoptera: Coleophoridae)

G. Baldizzone\* & H. W. van der Wolf

### Abstract

Six new species of the genus *Coleophora* Hübner, 1822 are described as *Coleophora jurateella* Baldizzone & Wolf, sp. n., *C. aarviki* Baldizzone & Wolf, sp. n., *C. capitensis* Baldizzone & Wolf, sp. n., *C. etoshae* Baldizzone & Wolf, sp. n., *C. karischella* Baldizzone & Wolf, sp. n. and *C. agassizi* Baldizzone & Wolf, sp. n. The genitalia of two species are described and illustrated: *Coleophora presbytica* Meyrick, 1921 and *C. scaleuta* Meyrick, 1911.

KEY WORDS: Lepidoptera, Coleophoridae, *Coleophora*, new species, Afrotropical region.

### Sobre los Coleophoridae Afrotropicales (I) (Lepidoptera: Coleophoridae)

### Resumen

Se describen seis nuevas especies del género *Coleophora* Hübner, 1822 como *Coleophora jurateella* Baldizzone & Wolf, sp. n., *C. aarviki* Baldizzone & Wolf, sp. n., *C. capitensis* Baldizzone & Wolf, sp. n., *C. etoshae* Baldizzone & Wolf, sp. n., *C. karischella* Baldizzone & Wolf, sp. n. and *C. agassizi* Baldizzone & Wolf, sp. n. Se ilustran y se describe la genitalia de dos especies: *Coleophora presbytica* Meyrick, 1921 y *C. scaleuta* Meyrick, 1911.

PALABRAS CLAVE: Lepidoptera, Coleophoridae, *Coleophora*, nuevas especies, región Afrotropical.

### Introduction

The knowledge of the Coleophoridae of the Afrotropical region is limited. However, in view of the large number of specimens that we are currently studying it must be very rich. Species were described by WALSINGHAM (1881) from South Africa; by MEYRICK (1908, 1909, 1911, 1912, 1912-1937, 1913, 1920 a., b., 1921, 1926, 1938) from South Africa, Zimbabwe, Malawi, Kenya and the Congo; and by BRADLEY (1965) from Uganda. Recently papers were published on the fauna of Coleophoridae from Namibia (2004) and Katanga (2005) by Baldizzone & van der Wolf. In the World Catalogue of Insects, Coleophoridae several genera and species which were formerly considered to belong to the Coleophoridae were transferred to other families (BALDIZZONE, VAN DER WOLF & LANDRY, 2006). This is the first of a series of articles on Afrotropical Coleophoridae in which the authors present descriptions of new species, and redescriptions, together with illustrations of the genitalia, of species already known.

\* Contribution to the knowledge of Coleophoridae CXXV.

G. BALDIZZONE &amp; H. W. VAN DER WOLF

**Abbreviations**

Bldz = Giorgio Baldizzone.  
 BMNH = The Natural History Museum, London, U.K.  
 DA = David Agassiz, private collection.  
 MHNG = Muséum d'histoire naturelle, Genève, Suisse.  
 RMCA = Royal Museum of Central Africa, Tervuren, Belgium.  
 SMNK = Staatliches Museum für Naturkunde, Karlsruhe, Germany.  
 TMSA = Transvaal Museum, Pretoria, South Africa.  
 ZMHU = Zoologisches Museum der Humboldt-Universität, Berlin, Germany  
 Wf = Hugo W. van der Wolf.

**Systematic treatment**

We have tried to follow Toll's group system for the Coleophoridae (TOLL, 1953, 1962) as far as possible. However, many Afrotropical species cannot be placed according to that system. In our forthcoming review of the Afrotropical Coleophoridae we aim to present a systematic review of the species of this fauna.

***Coleophora jurateella* Baldizzone & van der Wolf, sp. n. (Fig. 1)**

Holotypus ♂: (PG Bldz 13510) "Namibia. Mile 46 | 18° 18' S 19° 15' E | 24-26-III-2003 | leg. W. Mey", coll. ZMHU.

Paratypes: 17 ♂♂ (PG Bldz 13506, 13518, 13519, 13520, 13521), 2 ♀♀ (PG Bldz 13505), idem. 2 ♂♂ (PG Bldz 13543) 2 ♀♀ (PG Bldz 13544) "Namibia-Exp. ZMB 1992 | Kavango: Kaudom-Camp | 18° 31' S 20° 43' E, lux | 22-25-II-92, leg. W. Mey. Paratypes in coll. ZMHU, Bldz and Wf.

Description: Wingspan 10-11 mm. Head white, dorsally faintly shaded ochreous. Labial palps internally totally white, externally faintly shaded ochreous; length third segment about 1/3<sup>rd</sup> of second. Antennae with basal segment ochreous, ventrally darker, ferruginous, with a strong tuft of erect scales concolorous with antennae: dorsally lighter and ventrally darker; scales of average length; flagellum uniformly ochreous all over. Thorax concolorous with head, occasionally slightly shaded ochreous. Forewings ochreous, darker in costal half and towards wing tip, getting lighter towards dorsal half beyond anal fold; fringes apically ochreous and dorsally dark grey. Hindwings dark grey or dark ochreous grey with fringes the same colour. Abdomen shining ochreous.

Note: There is notable variation in the habitus with specimens being rather lighter or darker; sometimes the apical region of the forewing is speckled with darker or ferruginous scales.

Male genitalia (Figs. 9-11): Gnathos globular. Tegumen broad. Pedunculi very small. Transtilla slender, medially joined at a right angle. Valvula indistinct, rounded. Cucullus short, with rounded apex. Sacculus with slightly curved sclerotised ventral margin, a rounded ventro-caudal angle, the dorso-caudal angle with finger-like process reaching beyond ventro-caudal margin of valva. Phallosome broad, gradually tapering towards a pointed apex, almost reaching the ventro-caudal angle of sacculus; first section of phallosome with sponge-like appearance, the tapering point transparent, with two sclerotised ridges. Cornuti absent.

Female genitalia (Figs. 13, 14): Papillae anales narrow, acute. Apophyses well pronounced, posteriores about 3 times longer than anteriores. Sterigma subtrapezoid, 1.5 times longer than wide. Distal margin rounded, medially with ovular fissure as far as ostium bursae. Colliculum weakly pronounced, with tiny specks, gradually narrowing towards ductus bursae. First section of bursa with two medial sclerotised bars enveloped in a spiculated sleeve; second section transparent with a more or less pronounced coil. Bursa large, sack-like, without signum.

Structure of abdominal supports (Figs. 12, 15): Anterior lateral struts about twice length of

## ON AFROTROPICAL COLEOPHORIDAE (I)

posterior ones. Transverse strut with distal margin convex, medially thinner, proximal margin straight, slender. Tergal disks about 3.5 times longer than wide, covered with sharp spines.

Diagnosis: The species cannot be placed in any species group of Toll's system.

Bionomy: Not known.

Distribution: So far only known from Namibia.

Etymology: The species is dedicated to Mrs Jurate De Prins, Royal Museum of Central Africa, Tervuren, Belgium, in recognition of her work on Afrotropical microlepidoptera.

***Coleophora aarviki* Baldizzzone & van der Wolf, sp. n. (Fig. 2)**

Holotype ♂ (GP Bldz 13561): "RSA, Richtersveld Numees, Helskloof Gate, 9-12-X-2001 LF | leg. W. Mey", coll. ZMHU.

Paratypes: 2 ♀♀ (GP Bldz 13557, 13559) idem, coll. ZMHU.

Description: Wingspan 14-15 mm. Head white. Labial palps white, externally shaded ochreous; length third segment about 4/5<sup>th</sup> of second. Antennae with basal segment white, externally shaded ochreous, with a scale tuft of the same colour, of medium length; flagellum ringed white and light ochreous in the ♂, and totally white in the ♀. Thorax white with faint ochreous tegulae. Forewings brown, darker in costal half, and shaded light grey towards dorsal; along costa a conspicuous white line widening halfway and narrowing towards apex, which is not reached; costal fringes partly white (in the section where the costal line arrives) and partly ochreous; dorsal fringes faintly ochreous shaded grey. Hindwings grey, fringes as in dorsal ones. The wings have a shiny reflex. Abdomen white.

Male genitalia (Figs. 16-18): Gnathos globular. Tegumen broad. Pedunculi rounded, narrow. Transtilla slender, inconspicuous. Valvula large, rounded. Cucullus long, with slightly upturned rounded apex. Sacculus more or less straight, ventral margin medially slightly chitinated; ventro-caudal and dorso-caudal angles right. Phallosome with thin dorsal ridge, broad, tapering towards a rounded apex which just surpasses valvula. Cornuti: a chain of short spines and a long row of unconnected spines.

Female genitalia (Figs. 20, 21): Papillae anales ovular. Apophyses posteriores about 2.5 times longer than anteriores. Sterigma subtrapezoid, about 1.5 times wider than long. Distal margin rounded, medially with V-shaped excavation towards ostium bursae. Colliculum chalcid, well-pronounced. Ductus bursae with three sections: the first, transparent, has a chitinous bar originating in colliculum, gradually narrowing, progressing in second section enveloped in a heavily speckled sleeve, ending in a coil; third section starting with a speckled transparent part followed by a transparent section towards a large sack-like bursa. Signum large, anchor-shaped.

Structure of abdominal supports (Figs. 19, 22): Anterior lateral struts about twice length of posterior ones. Transverse strut with convex distal margin, proximal margin sinuous, slender, medially widened. Tergal disks 2.5 times longer than wide, covered with sharp spines.

Diagnosis: The species can be placed in the 9<sup>th</sup> group of Toll's system because of its habitus and the female genitalia, but it does not resemble any palearctic species.

Bionomy: Not known.

Distribution: So far only known from the north-west of the Republic of South Africa.

Etymology: The species is dedicated to Mr Leif Aarvik, Norway, in recognition of his work on Afrotropical microlepidoptera.

***Coleophora capitensis* Baldizzzone & van der Wolf, sp. n. (Fig. 3)**

Holotype ♂ (GP Bldz 13553): "RSA, Cape Prov. | De Hoop N.R. | 16-18-11-1993, leg. Mey & Ebert", coll. ZMHU.

Paratypes: 1 ♂ (GP Bldz 13549), idem; 2 ♀♀ (GP Bldz , 13550, 13567), idem; 1 ♂ (GP Bldz 15006) "RSA, West Cape, Cederberg Mts. Algeria, 22-24-XI-2008 LF, leg. Ebert, Mey & Kühne"; 1 ♀ (GP Bldz 11925) "South Africa | Cape Peninsula | 1 km ONO Die Josie | 4 km SSO Hout Bay | 4-I-1996

LF (125 W HQL) T. Karisch leg.”; 1 ♀ (GP Bldz 11928) “South Africa | Worcester | Hügel 5 km südwestl. Ort 33° 41' s. Br. 19° 25' ö. L. | 9-XI-1993 LF (160 W ML) T. Karisch leg.”; 2 ♀♀ GP Bldz 11654) “RSA Cape Prov. 23 km N. Oudtshoorn | Cango Mnt. Resort | 23-Feb.-1995 | leg. HW.vd.Wolf”; 1 ♂ GP Wf. 10623), “Goedvertrou C.P. 7-8-III-1980 Scoble & Kroon”; 1 ♂ ibidem, 1 ♀ (GP Wf. 10624), ibidem; 1 ♂ (GP Wf. 10665), “Du Toits Kloof Pearl Distr. 22-X-1967 Vári & Potgieter”; 1 ♀ (GP Wf. 10636), “Algeria Forestry Clanwilliam Dist. 18-20-X-1971 Jones & Snyman”; 1 ♀ (GP Wf. 10669), “Jonkershoek 22-X-1965 L. Vári”. Paratypes in coll. ZMHU, TMSA, Bldz and Wf.

Description: Wingspan 9-10 mm. Head white, dorsally shaded very light ochreous. Labial palps small, almost entirely white, occasionally dorsally brownish; third segment about half the second, with a long scale tuft at the base of the distal extremity. Antennae with basal segment dorsally white or light ochreous, ventrally ochreous ferruginous, with a tuft of many erect scales, externally lighter ochreous, internally rather darker and ferruginous; flagellum, ringed white and brown, covered with white or light ochreous scales over the first 3-4 segments of the base. Thorax white, sometimes halfway shaded light ochreous. Tegulae shaded light ochreous. Forewings dark brown in the costal zone all the length of the wing and continuing in the apical fringes, which are also dark brown; the colour becomes lighter, ochreous, between anal vein and dorsum; along the costa a conspicuous white line which widens towards the apex, where it ends at 9/10 of the apex; a less conspicuous white line, along the anal fold, and also along the dorsum a rather short line originating from the base, wider and becoming less visible along the margin; costal fringes white, like the costal line, whereas the dorsal fringes are light grey, well separated from the dorsal fringes by brown apical fringes. Hindwings and fringes light grey. Abdomen ochreous. Wings and abdomen with a shiny reflex.

Male genitalia (Figs. 23-26): Gnathos globular. Tegumen narrow, straight. Pedunculi small, rounded. Transtilla slender, straight. Valvula indistinct. Cucullus straight, narrow, apically rounded. Sacculus long, rounded, ending in an obtuse point. Phallotheca conical, curved. Cornuti consisting of long spines, some bundled, some loose.

Female genitalia (Figs. 27, 28): Papillae anales ovular. Apophyses posteriores four times longer than anteriores. Sterigma subtrapezoid. Colliculum with wide ogival opening. Ductus bursae very long with medial line, enveloped by a sleeve with numerous spines. Bursa sack-like with big anchor-shaped signum.

Structure of abdominal supports (Fig. 29): Anterior lateral struts about 2.5 times longer than posteriores. Transverse strut more or less straight. Tergal disks 3 times longer than wide, covered with sharp spines.

Diagnosis: The species belongs to the 9<sup>th</sup> group of Toll's system. The male genitalia resemble those of the species of the palearctic *medelichensis* group, but the female genitalia are different. In the female genitalia those of *capitensis* have a colliculum which is narrower and longer than in *aarviki* and reaches the distal margin of the sterigma. In *capitensis* the distal margin of the sterigma is straight, with square corners, in *aarviki* the distal margin is rounded.

Bionomy: Not known.

Distribution: So far the species is only known from the Republic of South Africa.

Etymology: The name of this species refers to its type locality: the Cape Province in the Republic of South Africa. (latin: *caput*, *capitis*).

#### *Coleophora etoshae* Baldizzone & van der Wolf, sp. n. (Fig. 4)

Holotype ♂ (GP Bldz 13541): “Namibia, Namutoni | Etosha Nat. Park | 14-16-12-1993 leg. Mey & Ebert”, coll. ZMHU.

Paratypes: 1 ♂ (GP Bldz 13514), 5 ♀♀ (GP Bldz 13509, 13513, 13515) “Namibia, Mile 46 | 18° 18' S, 19° 15' E | 24-26-III- 2003 | leg. W. Mey”. Paratypes in coll. ZMHU, Bldz and Wf.

Description: Wingspan 10-11 mm. Head nut-brown, with a white area above the eyes. Labial palps light brown, dorsally white. The third segment, slender and long, is about as long as the second. Antennae with basal segment brown, without erect scales basally; flagellum uniformly brown in the

## ON AFROTROPICAL COLEOPHORIDAE (I)

male, and ringed white and brown in the female: the brown rings become lighter towards the end of the flagellum, whereas the last 1/3<sup>rd</sup> is white. Thorax concolorous with head. Forewings almost uniformly leather-brown, with a slender white costal line which changes colour towards the light brown fringes; the apical fringes are dark brown, whereas the dorsal fringes are light grey-brown. Hindwings brown with light grey-brown fringes. Abdomen grey-brown. This species has a shiny reflex.

Male genitalia (Figs. 30-33): Gnathos globular. Tegumen broad, constricted at 1/3<sup>rd</sup>. Pedunculi rounded. Transtilla club-like. Valvula pronounced, finger-like, parallel to dorsal margin of sacculus. Cucullus short, stout, with rounded apex. Sacculus with curved ventral margin, in ventro-caudal section covered with small teeth, progressing as a finger-like process with some teeth, almost reaching dorsal margin of valva. Phallosome with two crooked rods reaching the ventro-caudal section of the sacculus; ventrally the rods contain a heavily sclerotised ridge topped by a pistol-like structure. Cornuti two crooked spines.

Female genitalia (Figs. 35-37): Papillae anales stretched, apically rounded. Apophyses posteriores twice longer than anteriores. Sterigma subtrapezoid, 1.2 times wider than long, distal margin sinuous. Ostium bursae large, ogival. Colliculum well-pronounced, chalcid. Ductus bursae with first section transparent, second section chitinised, twisted, third section transparent again. Bursa long, sack-like. Signum a plate with finger-like process.

Structure of abdominal supports (Fig. 34): No posterior lateral struts. Transverse strut with distal margin straight, medially constricted, proximal margin convex, medially thickened. Tergal disks 4.5 times longer than wide, covered with sharp spines.

Diagnosis: See the next species: *C. presbytica*.

Bionomy: Not known.

Distribution: So far only known from Namibia.

Etymology: The name of this species refers to its type locality: the Etosha National Park in Namibia.

*Coleophora presbytica* Meyrick, 1921 (no photo is presented because of the bad state of the specimens)

Material examined: Lectotype ♀: "Pret. Nort | 24-2-1917 | C. J. Swierstra" [printed and handwritten]; "6374" [handwritten, it concerns a GP by Janse]; "*Coleophora presbytica* Meyr. | Type No. 2582" [in red, handwritten and printed]; "LECTOTYPUS ♀ | *Coleophora presbytica* Meyrick | G. Balducci, 1992" [red label]. Coll. TMSA. 1 ♂ (GP Bldz 13516), 1 ♀ (GP Bldz 13511), "Namibia, Mile 46 | 18° 18' S, 19° 15' E | 24-26-III-2003 | leg. W. Mey", coll. ZMHU.

Description: Meyrick's description is correct: "♂ ♀ 11 mm. Head grey, slightly mixed with whitish. Palpi light grey, white towards base beneath. Antennae white ringed with grey. Thorax grey suffused with whitish anteriorly. Abdomen grey sprinkled with whitish. Forewings narrow-lanceolate, long-pointed, acute; ochreous-grey, with a few darker grey scales; a white line along costa from base to about middle: cilia whitish-ochreous-grey, on costa ochreous-whitish. Hindwings grey; cilia whitish-grey." (MEYRICK, 1921).

Male genitalia (Figs. 38-40): Gnathos globular. Tegumen broad. Pedunculi stretched. Transtilla club-like. Valvula rounded. Cucullus club-like, with a thin sclerotised ridge towards the rounded apex. Sacculus with curved ventral margin, from ventro-caudal to dorsal-caudal angle with fold, interiorly covered with obtuse teeth; from the dorso-caudal angle two larger teeth, followed by a crooked sclerotised process, partly covering ventral margin of valva. Phallosome with two rods almost reaching sacculus margin, both medially topped by an arrowpoint-like sclerotized structure. A single cornutus in the shape of a long, thin needle.

Female genitalia (Figs. 42, 43): Papillae anales ovular. Apophyses posteriores twice longer than anteriores. Sterigma subtrapezoid, twice wider than long; distal margin weakly excavated. Ostium bursae parallel to distal margin colliculum. Colliculum chalcid. First section of ductus bursae speckled with tiny spines; second and third sections very long, more or less transparent, with many irregular convolutions. Bursa sack-like, with leaf-like signum.

Structure of abdominal supports (Figs. 41, 44): No posterior lateral struts. Transverse strut with

distal margin slightly convex, medially very thin; proximal margin slightly convex, medially thickened. Tergal disks 5 times longer than wide, covered with sharp spines.

Diagnosis: Both *C. etoshae* and *C. presbytica* are reminiscent of *C. tamesis* Waters in habitus and male genitalia and to a lesser extent in the female genitalia. *C. tamesis* is a palearctic species of Toll's 30<sup>th</sup> group living on the seeds of *Juncus*. The male genitalia of *C. etoshae* and *C. presbytica* differ in the shape of the dorso-caudal angle, the shape of the phallotheca and the length of the cornutus. The female genitalia differ in the length and spiculation of the ductus bursae.

Bionomy: Not known.

Distribution: Republic of South Africa, Namibia.

***Coleophora karischella* Baldizzone & van der Wolf, sp. n. (Fig. 5-6)**

Holotype ♂ (GP Bldz 11634) "R. S. A. Cape Prov. 23 km N Oudtshoorn | Cango Mnt. Resort | 23-Feb.-1995 | Leg. HW.vd.Wolf", coll. Wf.

Paratypes: 1 ♂ (GP Bldz 11639), 2 ♀♀ (GP Bldz 11635, 11637), idem; 1 ♀ GP Bldz 11640) "R. S. A. Cape Prov. Swellendam/ Bontebok NP | 19-Feb.-995 | leg. HW.vd.Wolf"; 1 ♀ (GP Bldz 11927) "South Africa/ Namaqualand | Vanrhynsdorp, 7,5 km südestl. Ort | nördl. Mtsilkammaberge | 31° 38' s.Br., 18 47' ö. L. | 2-XI-1993 LF (160 W ML) T. Karisch leg."; 1 ♀ (GP Bldz 14993) "RSA, Knersvlakte | Groot Graafwater | 27-X-2007, Turm | leg. W. Mey"; 1 ♂ (GP Bldz 15021) "RSA, North Cape | Spoekrivier, Bethel klip, leg. Ebert, Mey & Kühne"; 1 ♀ (GP Bldz 13424) "Namibia, Okaukuejo | Etosha, Nat. Park/ 17-18-12-1993 | leg. Mey & Ebert"; 1 ♂ (GP Bldz 15085), 1 ♀ (GP Bldz 15065) "Namibia, 10 km E Swakopmund, LF | Swakop, 15-I-2007 | leg. Mey & Ebert"; 1 ♀ (GP Bldz 15058) "Namibia, 50 km NE Bitterfontein, Drai-Hoek, 25-XI-2008 LF | leg. Ebert, Mey & Kühne". Paratypes in coll. ZMHU, TMSA, Bldz and Wf.

Description: Wingspan 10 mm. Head white, shaded creamy, more or less dark. Labial palps small, white, with slight covering of ochreous ventrally and partly externally; third section, small and acute, is about 4/5<sup>th</sup> of length second. Antennae with basal segment white, dorsally shaded creamy, and slightly darker ventrally, without erect scales; flagellum ringed white and brown, dorsally only. Thorax and tegulae same as head. Forewings white, shaded light ochreous varying lighter or darker, and sprinkled with brown scales, more concentrated towards apex, costal fringes light grey, dorsal fringes light grey shaded ochreous. Hindwings light grey with concolorous fringes slightly shaded light grey hyaline. Abdomen white, shaded light ochreous.

Male genitalia (Figs. 45-48): Gnathos globular. Tegumen long, medially constricted. Pedunculi large, rounded. Transtilla slender, curved. Valvula ill-defined, square. Cucullus long, club-like with rounded apex. Sacculus with ventral margin more or less straight, well-pronounced, towards ventro-caudal angle with small teeth; ventro-caudal angle right, with obtuse tooth; dorso-caudal angle with crooked process, reaching dorsal margin of valva in acute point. Phallotheca with two slender curved rods of unequal lengths and thickness, well overshooting ventral margin of sacculus. Cornuti a bundle of long thin spines.

Female genitalia (Figs. 50-52): Papillae anales ovular. Apophyses posteriores about 2.5 times longer than anteriores. Sterigma subtrapezoid, 1.3 times wider than long; distal margin straight. Ostium bursae ill-defined. Colliculum well-pronounced, chalice, tapering into ductus bursae. First section of ductus bursae transparent, with dark middle line, followed by a section forming a single convolution which has two chains of connected dots and spines enveloped in a sleeve sparsely speckled with faint spines; first stretch of third section transparent with dark middle line followed by another transparent stretch, towards the sack-like bursa more and more speckled with black spots. Signum large, a base plate ending in a finger-like process.

Structure of abdominal supports (Fig. 49): No posterior lateral struts. Transverse strut with margins convex, well-defined. Tergal disks 5 times longer than wide, covered with small spines.

Diagnosis: The new species belongs to the 30<sup>th</sup> group of Toll's system. It does not resemble any Palearctic species.

## ON AFROTROPICAL COLEOPHORIDAE (I)

Bionomy: Not known.

Distribution: Republic of South Africa, Namibia.

Etymology: The species is dedicated to Mr Tim Karisch, Germany, in recognition of his work on Afrotropical microlepidoptera.

***Coleophora agassizi* Baldizzzone & van der Wolf sp. n. (Fig. 7)**

Holotype ♂ (GP BMNH 27382): "UGANDA: Ruwenzori Range. Ibanda. 4,700 ft. 4-12-IX-1952/ D. S. Fletcher", "Ruwenzori Exp. B.M. 1952-566", coll. BMNH.

Paratypes: 9 ♂♂ (GP BMNH 8724, 8828, 10122, 27379, 27380, 27381), 2 ♀♀ (GP BMNH 9601, 27383), idem, coll. BMNH; 1 ♀ (GP Wf. 4415): "KENYA | Lake Naivasha | Fisherman camp/ 28-II-1989/ 1900 m | leg. R. Schouten 85"; 1 ♂ (GP Bldz 13988) "KENYA Rift Valley, Soysambu Est 1800 m. 20-IV-2005, D. J. L. Agassiz leg."; 1 ♀ (GP Bldz 13990): "KENYA: Rift Valley | Soysambu Est. 1800 m. 0° 24' S 36° 14' E | 15-IV-2005 | D. J. L. Agassiz", coll. Bldz; 2 ♀♀ (GP Bldz 15119): "R. S. A. Transvaal | Meyerton | Suikerbosrand NR/ 4-5 MRT.1995/ leg. HW.vd.Wolf"; 1 ♀ (GP Bldz 11647) "R. S. A. Or. Free-State | Fouriesburg | Meiringskloof/ 28-FEB-1 MRT 1995/leg. HW.vd.Wolf"; 1 ♂ (GP Bldz 8442) "KENYA Rift Valley, Turi, 8000 ft., 21-I-2000 D. J. L. Agassiz"; 1 ♂ (GP Bldz 8446) idem, 13-VI-2000; 2 ♂♂ (GP Bldz 9036,9037) "KENYA Central, Aberdare C. Club, 0° 20' S, 36° 53' E, 1750 m. 26-IV-2003"; 1 ♂ (GP Bldz 9028), idem, 27-IV-2003; 1 ♀ (GP Bldz 9035) idem; 1 ♀ (GP Bldz 9039) "KENYA Rift Valley, Naivasha, 2000 m. 0° 45' S 36° 24' E, 23-IV-2003 D. J. L. Agassiz"; 1 ♂ (GP Wf. 11044) "KENYA, Easter, Lewa, 2070 m. 0° 8' 24" N 37° 27' 28" E, 29-XI-2008, D. Agassiz, L., Aarvik & A. J. Kingston"; 1 ♂ (GP Wf. 10640) [RSA] "Verwoerd Dam, Oranjekrag, O. F. S., 13-15-IV-1970, Vári & Snyman". Paratypes in coll. BMNH, DA, TMSA, Bldz and Wf.

Description: Wingspan 10-11 mm. Head creamy white. Labial palps creamy white; third segment 2/3<sup>rd</sup> of second. Antennae with creamy white basal segment and tuft of short scales; flagellum creamy white, slightly ringed greyish. Thorax and tegulae creamy white. Forewings uniformly creamy white or ochreous; costal fringes creamy white. Hindwings light grey; fringes creamy white.

Male genitalia (Figs. 53-56): Gnathos globular. Tegumen stretched, medially constricted. Pedunculi large, rounded. Transtilla stout, more or less square. Valvula ill-defined, rounded. Cucullus stretched, with rounded apex. Sacculus with ventral margin pronounced, curved, in some specimens with ventro-caudal angle of 120; dorso-caudal angle with finger-like process progressing well beyond dorsal margin of valva, with triangular tooth on proximal margin. Phallosome with two transparent curved rods of equal lengths, basally with slender sclerotised ridges, with rounded apices and a single blunt tooth ventrally. Cornuti two bundles of long spines.

Female genitalia (Figs. 57, 58): Papillae anales slender, acute. Apophyses posteriores twice longer than anteriores. Sterigma subtrapezoid, slightly wider than long; distal margin slightly concave, medially with fissure towards ostium bursae; proximal margin with triangular process. Colliculum well-pronounced, ogival, progressing well beyond proximal margin of sterigma and containing a chitinous medial line progressing into ductus bursae. First section of ductus with two bands of chitinated spikes enveloped in a sleeve covered with tiny spines; second section with transparent coil, followed by another coil heavily speckled with tiny spines; third section transparent towards sack-like bursa. Signum leaf-like.

Structure of abdominal supports (Fig. 59): No posterior lateral struts. Transverse strut with margins slender, slightly convex and medially thickened. Tergal disks about 2.5 times longer than wide, covered with sharp spines.

Diagnosis: The species belongs to the 30<sup>th</sup> group of Toll's system, slightly resembling the palaearctic *C. kudrosella* Baldizzzone & Oku, 1988, but with notable differences, particularly in the male genitalia.

Bionomy: Not known.

Distribution: The species is known from Kenya, Uganda and the Republic of South Africa.

**Etymology:** This species is dedicated to Mr David Agassiz, United Kingdom, in recognition of his work on Afrotropical microlepidoptera.

*Coleophora scaleuta* Meyrick, 1911 (Fig. 8)

**Material examined:** Lectotype ♀: "Pretoria 5-3-06" [handwritten]; "41 81" [printed]; G. 6381" [handwritten, it is the number of Janse's GP]; "Coleophora scaleuta M. l Type No 864" [written in red, handwritten and printed]; "C. scaleuta 4181" [handwritten]; "LECTOTYPUS ♀ Coleophora scaleuta Meyr. l G. Baldizzone, 1992" [red label], coll. TMSA. 1 ♂ (GP Bldz 10182) "Musée du Congo, Tshambi (975) (Kabasha) 28-X.-7-XI-1938, G.F. de Witte, Park. Nat. Albert" coll. RMCA; 1 ♂ (GP Bldz 15050) "R. S. A. Limpopo l Nylstroom Farm "Sericea" 20-27-III-2006/ 24° 43' S 28° 39' E l leg. F. Koch", coll. ZMHU; 1 ♀ (GP Bldz 11168) "Pretoria, XII-1953, L. Vári", coll. TMSA; 1 ♀ (GP Bldz 7276) "SW-Arabien, Asirgebirge, 2000 m, Wadi Marah, 81 km S Biljurshi, 24-4-79, H.G. Amsel leg.", coll. SMNK; 1 ♀ (GP Bldz 7428) "E-Africa, 27.XI.1984, Kenya, Nakuru NP, 1850 m, leg. G. Bassi", coll. Bldz; 1 ♀ (GP Bldz 11631) "R. S. A. Transvaal, Meyerton, Suikerbosrand, NR Kareekloof, 4-5 Mrt. 1995, leg. HW.vd.Wolf", coll. Bldz; 1 ♀ (GP BMNH 27384) "Cape Province: Mossel Bay, Dec. 1934, S. Africa, R. E. Turner", "B.M. 1935-73", coll. BMNH; 1 ♀ (GP Bldz 11638) "R. S. A. Cape prov., 23 km N Oudtshoorn, Cango Mnt. Resort, 23-Feb.-1995, leg. HW.vd.Wolf", coll. Wf; 1 ♀ (GP Bldz 11169) "Pretoria, 22-II-1955, L. Vári", coll. TMSA; 1 ♀ (GP BMNH 28411) "Kenya: Lake Naivasha, Korongo Farm, 31-XII-1982, P.C. Barnard", "B.M. 1983-82", coll. BMNH; 1 ♂ (GP BMNH 28412) "Kenya: Lake Naivasha, Korongo Farm, 31-XII-1982, P. C. Barnard", "B.M. 1983-82", coll. BMNH; 1 ♀ (GP Bldz 11169) "Zuurberg Pass, 21-III-1954, L. Vári", coll. TMSA; 1 ♀ (GP Bldz 13987) "Kenya, Rift Valley, Soysambu Est. 1800 m, 0° 24' S 36° 14' E 22.IX.2005, D. J. L. Agassiz", coll. Bldz; 5 ♂♂ (GP Bldz 13402) "Ht Katanga, Tsinkolobwe, 3-2-31, J. Romieux", coll. MHNG and Bldz; 2 ♀♀ (GP Bldz 13407) "Ht Katanga, Panda, 6.4.29, J. Romieux", coll. MHNG and Bldz; 1 ♀ (GP Bldz 13404) "Makulane X-XII-07, coll. Dr. G. Audeoud", coll. MHNG; 2 ♂♂, 1 ♀ "KENYA Rift Valley L. Naivasha 6000 ft. 12-VIII-1999, D. J. L. Agassiz"; 1 ♀ (GP Wf. 9040) "KENYA Rift Valley, Naivasha 2000 m. 0° 45' S 36° 24' E, 12-IV-2003, D. J. L. Agassiz; 1 ♀ (GP Wf. 9031) "KENYA Rift Valley, L. Baringo, 1000 m. 0° 20' N 36° 35' E, 2-V-2003, D. J. L. Agassiz"; 1 ♂ "KENYA, Rift Valley, Rumuruti, 1800 m. 0° 20' N 36° 35' E, 29-IV-2003; 1 ♀ "KENYA Rift Valley Kaptagat 7000 ft. 15-I-2000, D. J. L. Agassiz"; 1 ♀ "KENYA Rift Valley, Lake Nakuru Park 5800 ft. , 2-X-1999, D. J. L. Agassiz"; 3 ♂♂ "KENYA Central Aberdare C. Club 0° 20' S 36° 53' E 1750 m. 7-IV-2003, D. J. L. Agassiz"; 1 ♂ (GP Wf. 7743) "KENYA Rift Valley Prov. Turi 8000 ft. 16-XI-1998, D. J. L. Agassiz"; 1 ♀, ibidem, 25-XI-1998; 2 ♂♂, ibidem, 13-XII-1998; 1 ♂, ibidem, 24-XII-1998; 1 ♂, ibidem, 1-III-1999; 1 ♀, ibidem, 3-III-1999; 1 ♂, ibidem, 29-IV-1999; 4 ♀♀, ibidem, 4-V-1999; 1 ♀ (GP Wf. 7742), ibidem, 5-V-1999; 1 ♀, ibidem; 1 ♂ (GP Wf. 7741), ibidem, 7-V-1999; 1 ♀, ibidem, 21-V-1999; 1 ♀, ibidem, 26-V-1999; 1 ♂, ibidem, 7-VI-1999; 1 ♂, ibidem, 8-VI-1999; 1 ♀, ibidem, 12-I-2000; 1 ♀, ibidem, 18-I-2000; 1 ♀, ibidem, 17-V-2000; 1 ♂ (GP Wf. 8444), ibidem, 19-V-2000; 1 ♀ (GP Wf. 11037), "Lake Bogoria 1000 m. 0° 21' N 36° 04' E, 13-VIII-2007, D. J. L. Agassiz"; 1 ♀ (GP Wf. 11026), ibidem, 21-XI-2005; coll. NMK, BMNH, DA; 1 ♂ (GP Wf. 10348), "Coll. Mus. Tervuren KENYA Nakuru National Park Makalia Falls Camp Site 0° 25' S 36° 04' E, 1830 m., 11-X-2001 leg. Dr. U. Dall'Asta", coll. RMCA; 1 ♀ (GP Wf. 5455), KENYA Lake Naivasha Fishersman Camp 28-II-1989, 1900 m. Leg. R. Schouten 85", coll. Wf; 1 ♂ (GP Wf. 10344), "TANZANIA Morogoro Distr. & Town 850-600 m. 25-XI-1991, leg. L. Aarvik", coll. Wf; 1 ♂ (GP Wf. 8959), ibidem, 9-IV-1993, coll. Wf; 1 ♂ (GP Wf. 8958), ibidem, 13-IV-1993, coll. Wf, "TANZANIA Arumeru Distr. Usa River, 1170 m. 28-V-1991, leg. L. Aarvik", coll. Wf; 1 ♀ (GP Wf. 11096), "TANZANIA Morogoro 500 m., Mazimbu Orchard 6° 47' S 37° 37' E, 7-VII-2009, leg. J. & W. De Prins", coll. RMCA; 1 ♀ (GP Bldz 11638), "R. S. A. Cape Prov. 23. km., N. Oudtshoorn, Cango Mtn. Resort, 23-Febr.-1995 leg. HW.vd.Wolf", coll. Wf; 1 ♀ (GP Wf. 8127), "RSA Western Cape, Wilderness NP, Ebb and Flow restcamp, 22-X-2000, leg. HW.vd.Wolf" coll. Wf; 1 ♂, "TANGANYIKA sept. Mt. Meru, Momella, 1600-1800 m, 20-31-I-64, leg. W. Forster", coll. ZSM; 1 ♂ (GP Bldz 11879), ibidem, 2-II-64; coll. Bldz; 2 ♂♂, ibidem, 10-19-II-64; coll. ZSM and Bldz.

## ON AFROTROPICAL COLEOPHORIDAE (I)

Description: Meyrick's description is correct: "Male and female, 14-15 mm. Head brownish-ochreous, suffused on sides with whitish. Palpi whitish, second joint with brownish-ochreous lateral streak and short apical projection of scales beneath. Antennae dilated near base, white ringed with brownish-ochreous. Thorax white, shoulders brownish-ochreous. Abdomen pale greyish. Fore wings elongate-lanceolate, apex produced, acute, in male with a rather long expansible greyish hair pencil on under surface from base beneath costa; brownish-ochreous; a whitish costal line from base to beyond middle; veins marked with suffused whitish lines; some scattered fine black scales on plical line and lower margin of cell, and between veins on costal half; cilia pale ochreous, tips whitish. Hind wings grey; cilia pale greyish." (MEYRICK, 1911).

Male genitalia (Figs. 60-63): Gnathos globular. Tegumen broad, constricted at 1/3<sup>rd</sup>. Pedunculi stretched, rounded, distally with small tooth. Transtilla broad, tapering into acute point. Valvula indistinct, rounded. Cucullus broad, apically rounded. Sacculus with ventral margin rounded, towards ventro-caudal angle with sclerotised ridge ending in oblong flap. Ventro-caudal angle right, dorso-caudal angle with two sharp teeth. Phallosome with two curved rods of equal length, one with acute point, the other medially with blunt tooth, apically ending in sickle-like point. Cornuti: one long, slender, curved spine, followed by a shorter one.

Female genitalia (Figs. 65-67): Papillae anales stretched, with tiny rounded apices. Apophyses posteriores about 2.5 times longer than anteriores. Sterigma subtrapezoid, slightly wider than long; distal margin medially widely excavated. Colliculum well-defined, with two sclerotised sidebars, curving towards ductus bursae, with black medial line, continuing into first section of ductus bursae, enveloped in a sleeve heavily speckled with sharp spines; second section a transparent coil with the black medial line, ending in a heavily speckled coil; third section transparent, winding, covered with tiny specks, merging into a sack-like bursa, containing two signa: a leaflike and a rasp-like one.

Structure of abdominal supports (Fig. 64): No posterior lateral struts. Transverse strut with slender, slightly concave margins. Tergal disks 2.5 times longer than wide, covered with sharp spines.

Diagnosis: The species belongs to the 30<sup>th</sup> group of Toll's system, closely related to *Coleophora versurella* Zeller, 1849. In the male genitalia of *C. scaleuta* the sacculus is much broader than in *C. versurella*; the dorsal process has a group of two acute teeth instead of one shallow process in *C. versurella*; in *C. versurella* the ventral process is rounded, in *C. scaleuta* it is square. The valvula in *C. scaleuta* is much shorter than in *C. versurella*.

The female genitalia of *scaleuta* closely resemble those of *versurella*, with differences in the shape of the sterigma, which is square in *versurella* and subtrapezoid in *scaleuta*. The sterigma in *scaleuta* is more compact than in *versurella*, with a ventral margin which is more sclerotised and even corrugated.

Bionomy: The species is supposed to feed on the seeds of Chenopodiaceae and Amaranthaceae, as in *versurella*.

Distribution: Widely distributed over the African subcontinent, from the South Cape to Saudi Arabia.

### Acknowledgements

We are indebted to all those who collected Coleophoridae for us in the field, especially Leif Aarvik, David Agassiz, Graziano Bassi, Jurate and Willy De Prins, Tim Karisch and Wolfram Mey. We also thank the curators of BMNH, MHNG, MNHU, RMCA, SMNK, TMSA and ZSM for allowing us to study material in their collections. Also a word of thanks to dr. Gianni Allegro of Casale Monferrato, Italy, for help with the colour photographs and to Dr. Antonio Vives for the translation of the abstract in Spanish.

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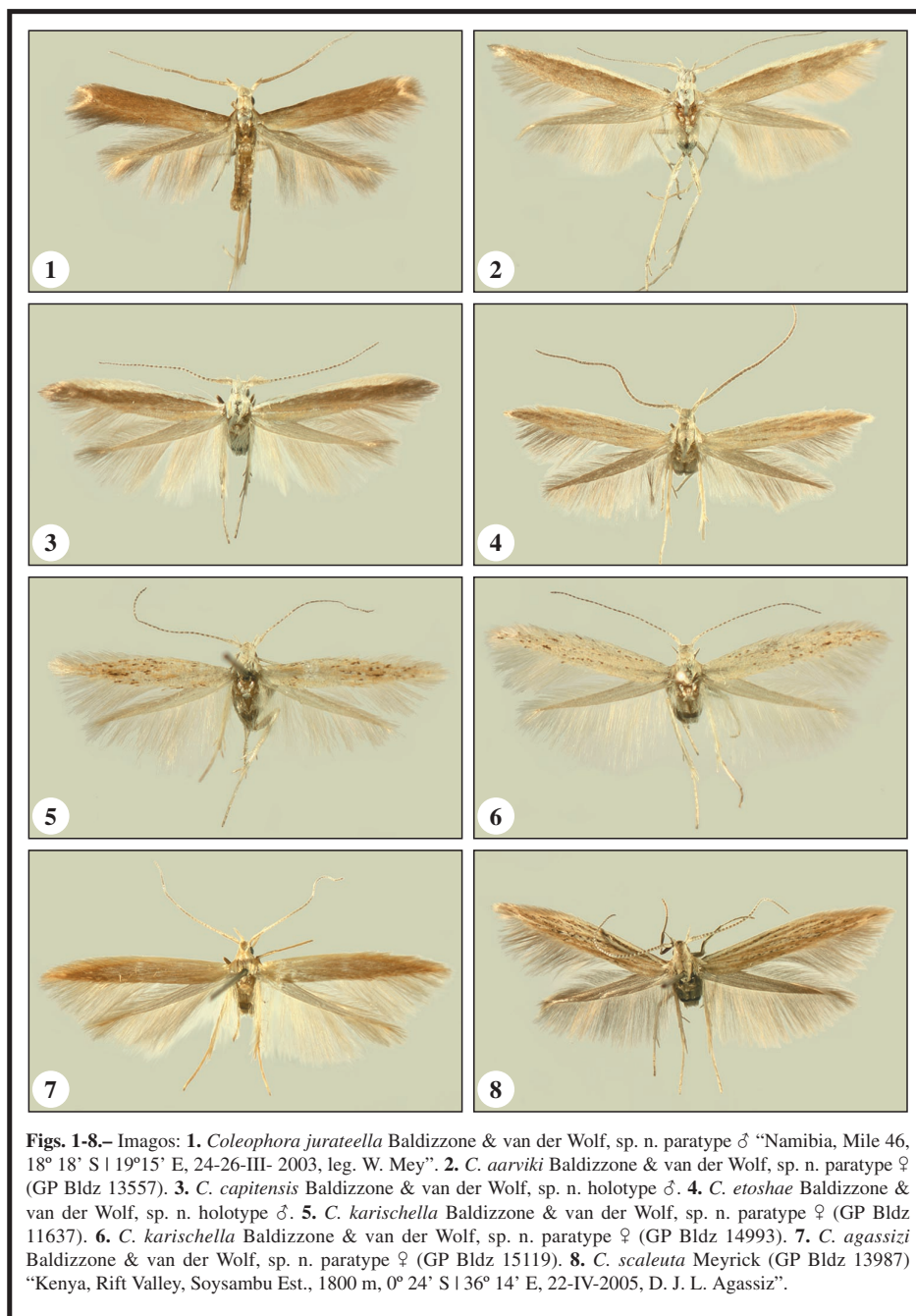
\*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 3-II-2010)

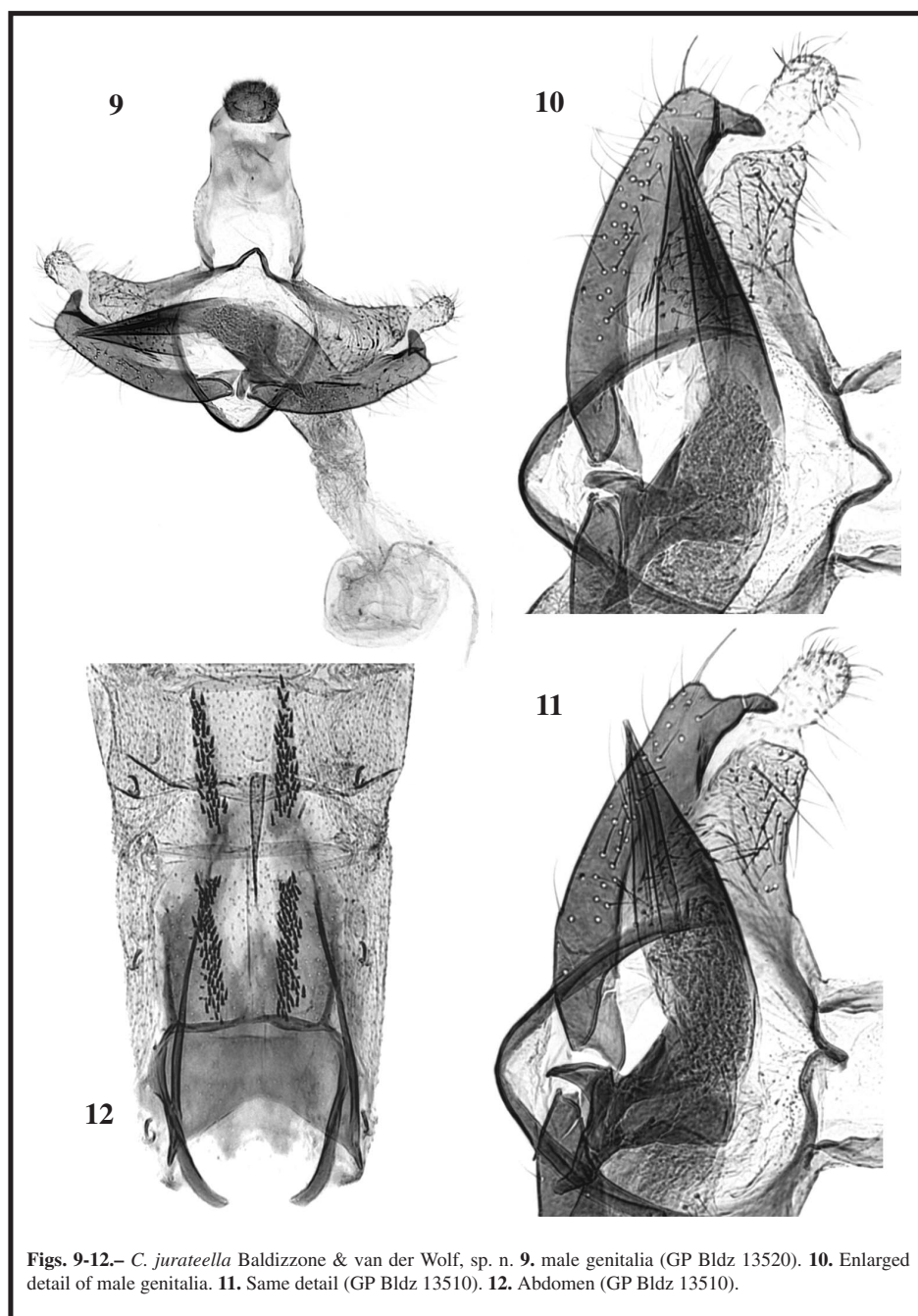
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## ON AFROTROPICAL COLEOPHORIDAE (I)

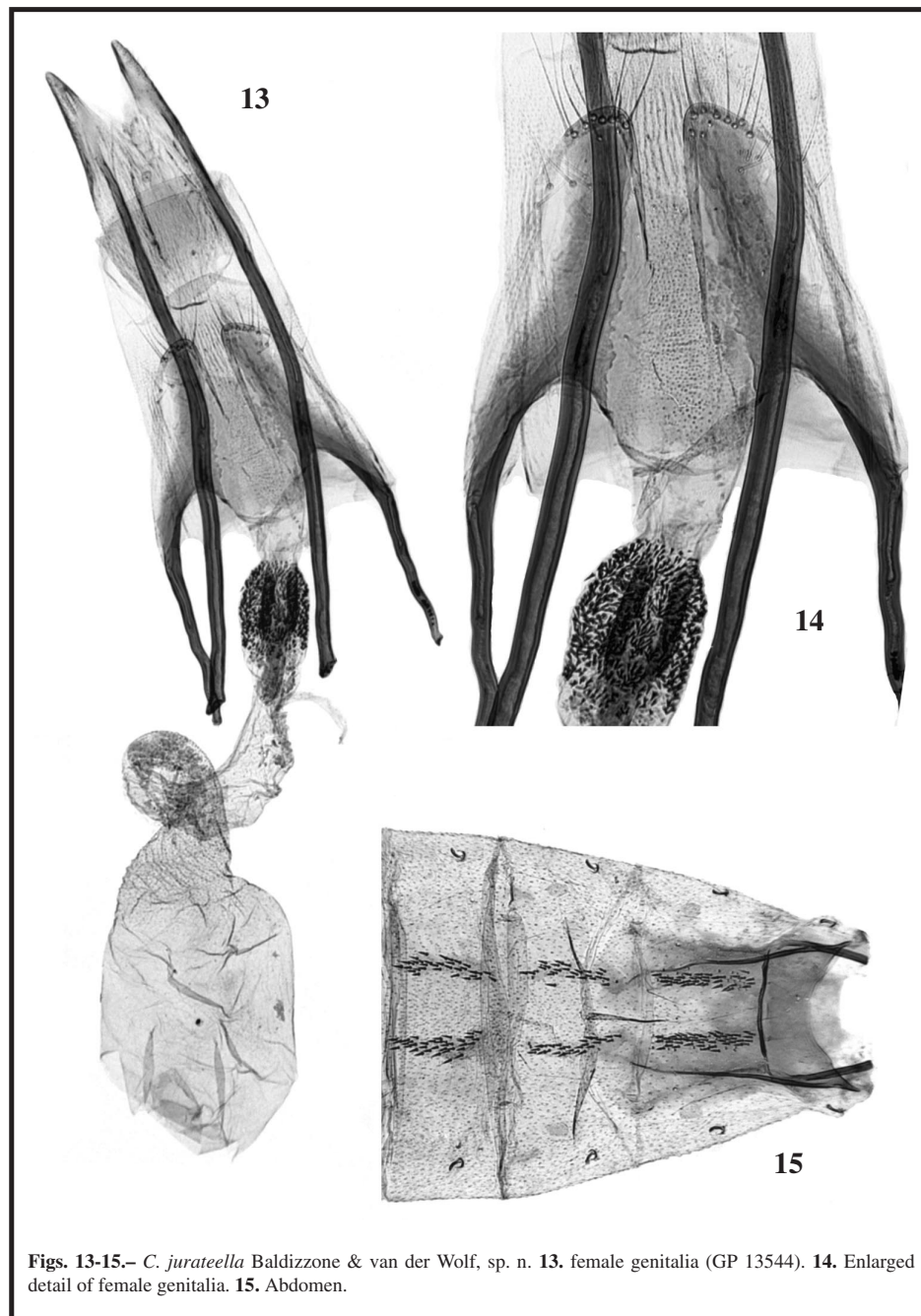


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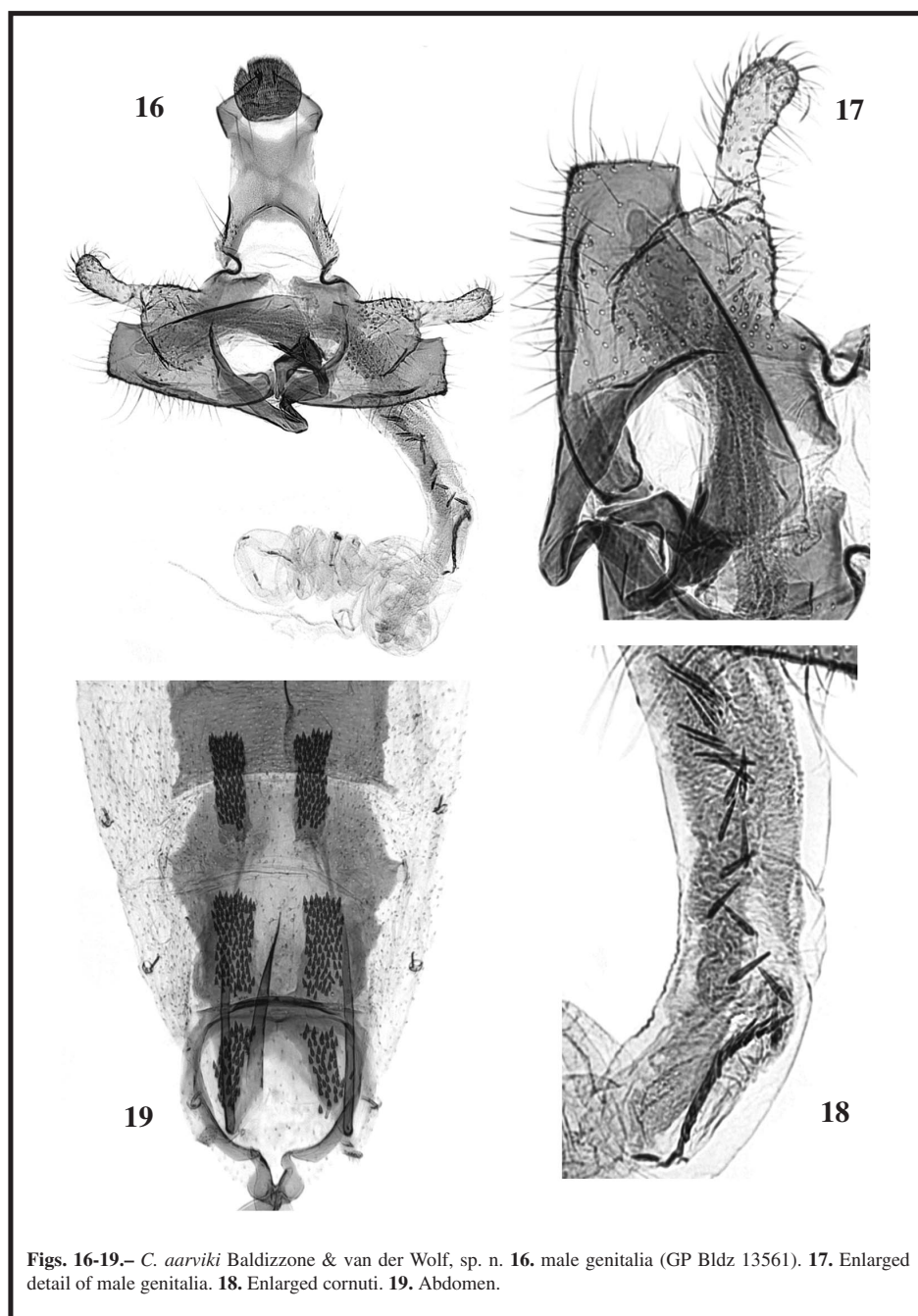
**Figs. 9-12.**— *C. jurateella* Baldizzone & van der Wolf, sp. n. **9.** male genitalia (GP Bldz 13520). **10.** Enlarged detail of male genitalia. **11.** Same detail (GP Bldz 13510). **12.** Abdomen (GP Bldz 13510).

ON AFROTROPICAL COLEOPHORIDAE (I)



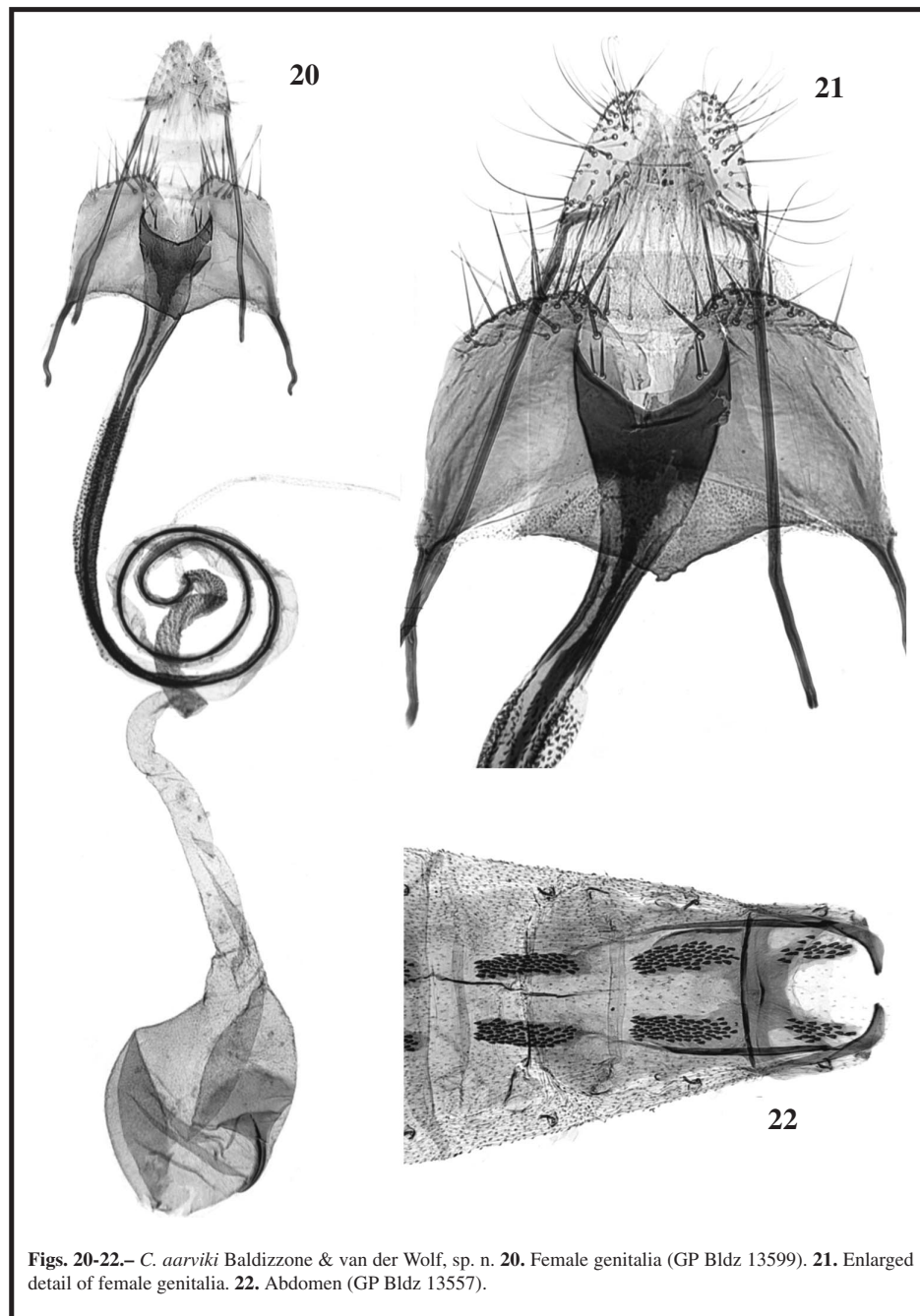
**Figs. 13-15.**– *C. jurateella* Baldizzone & van der Wolf, sp. n. **13.** female genitalia (GP 13544). **14.** Enlarged detail of female genitalia. **15.** Abdomen.

G. BALDIZZONE & H. W. VAN DER WOLF



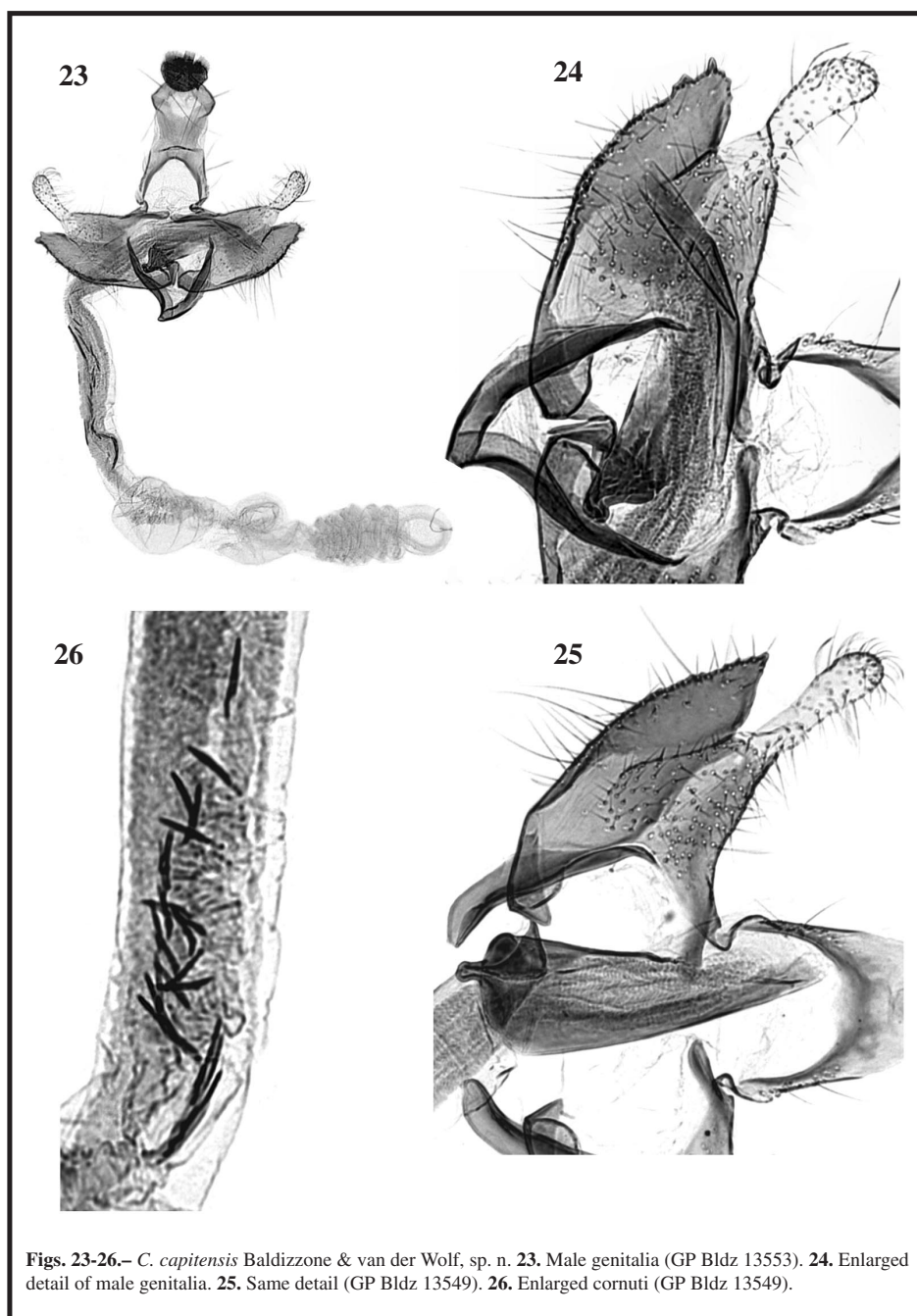
**Figs. 16-19.**— *C. aarviki* Baldizzone & van der Wolf, sp. n. **16.** male genitalia (GP Bldz 13561). **17.** Enlarged detail of male genitalia. **18.** Enlarged cornuti. **19.** Abdomen.

ON AFROTROPICAL COLEOPHORIDAE (I)



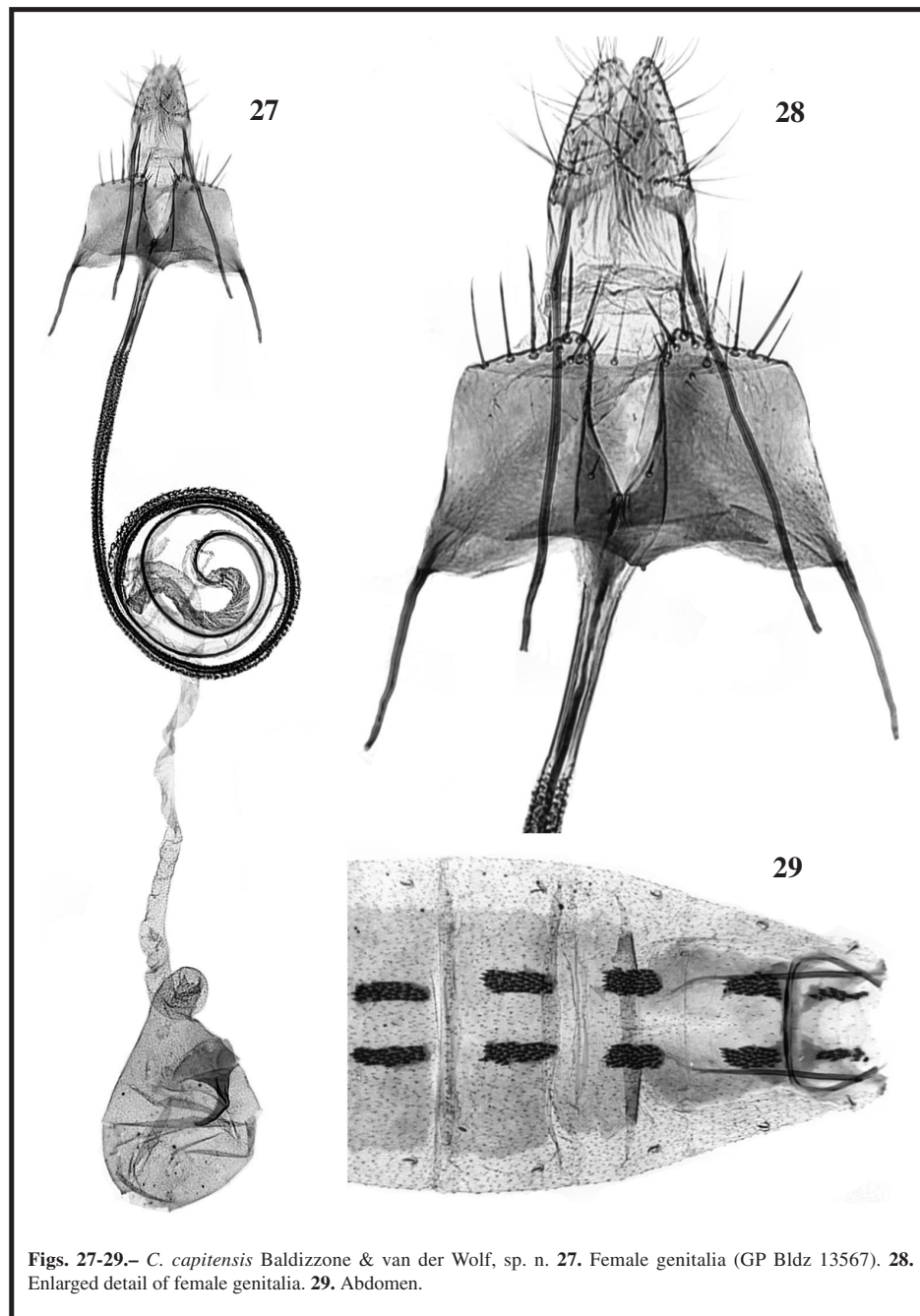
**Figs. 20-22.**– *C. aarviki* Baldizzone & van der Wolf, sp. n. **20.** Female genitalia (GP Bldz 13599). **21.** Enlarged detail of female genitalia. **22.** Abdomen (GP Bldz 13557).

G. BALDIZZONE & H. W. VAN DER WOLF



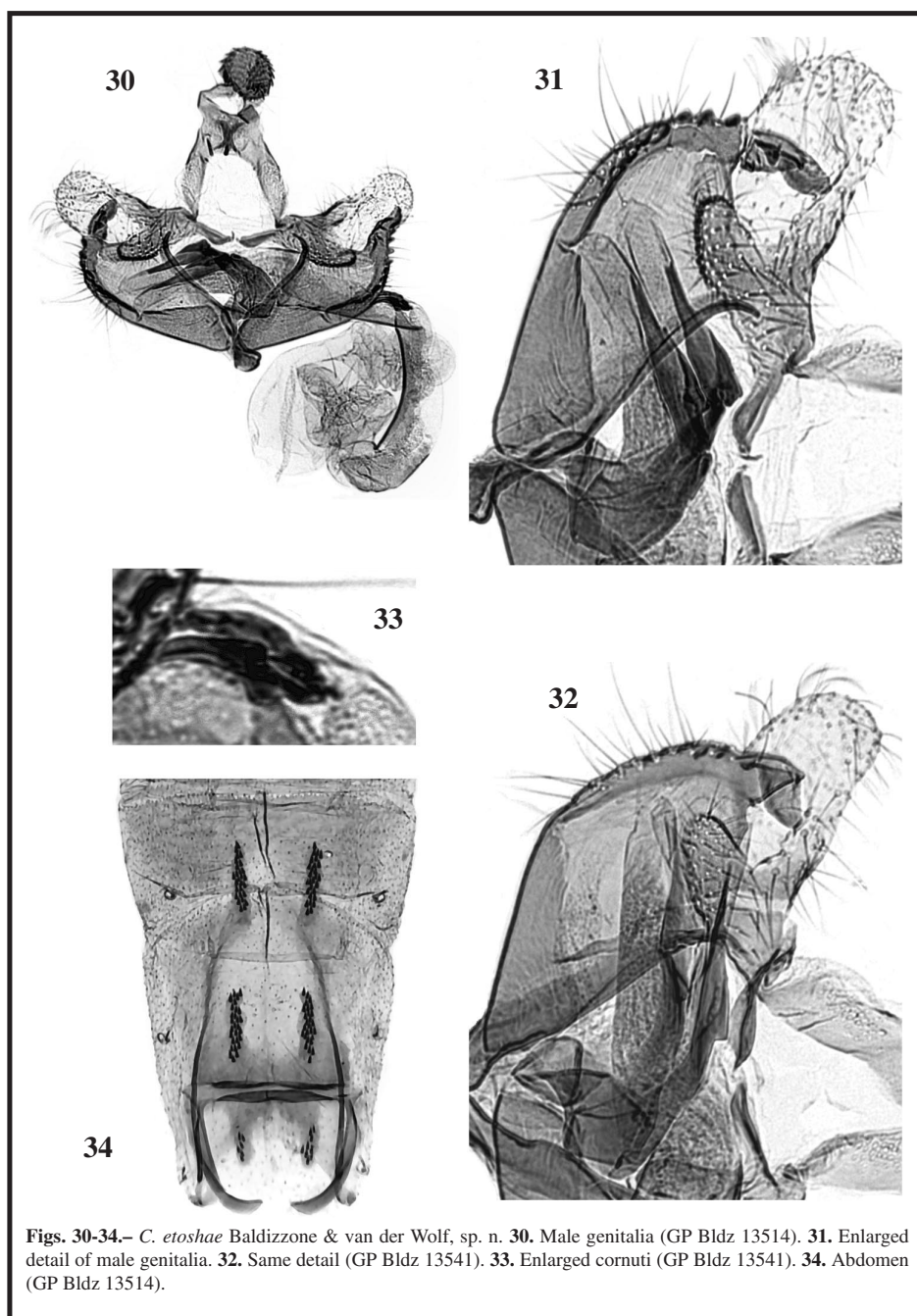
**Figs. 23-26.**— *C. capitensis* Baldizzone & van der Wolf, sp. n. **23.** Male genitalia (GP Bldz 13553). **24.** Enlarged detail of male genitalia. **25.** Same detail (GP Bldz 13549). **26.** Enlarged cornuti (GP Bldz 13549).

ON AFROTROPICAL COLEOPHORIDAE (I)



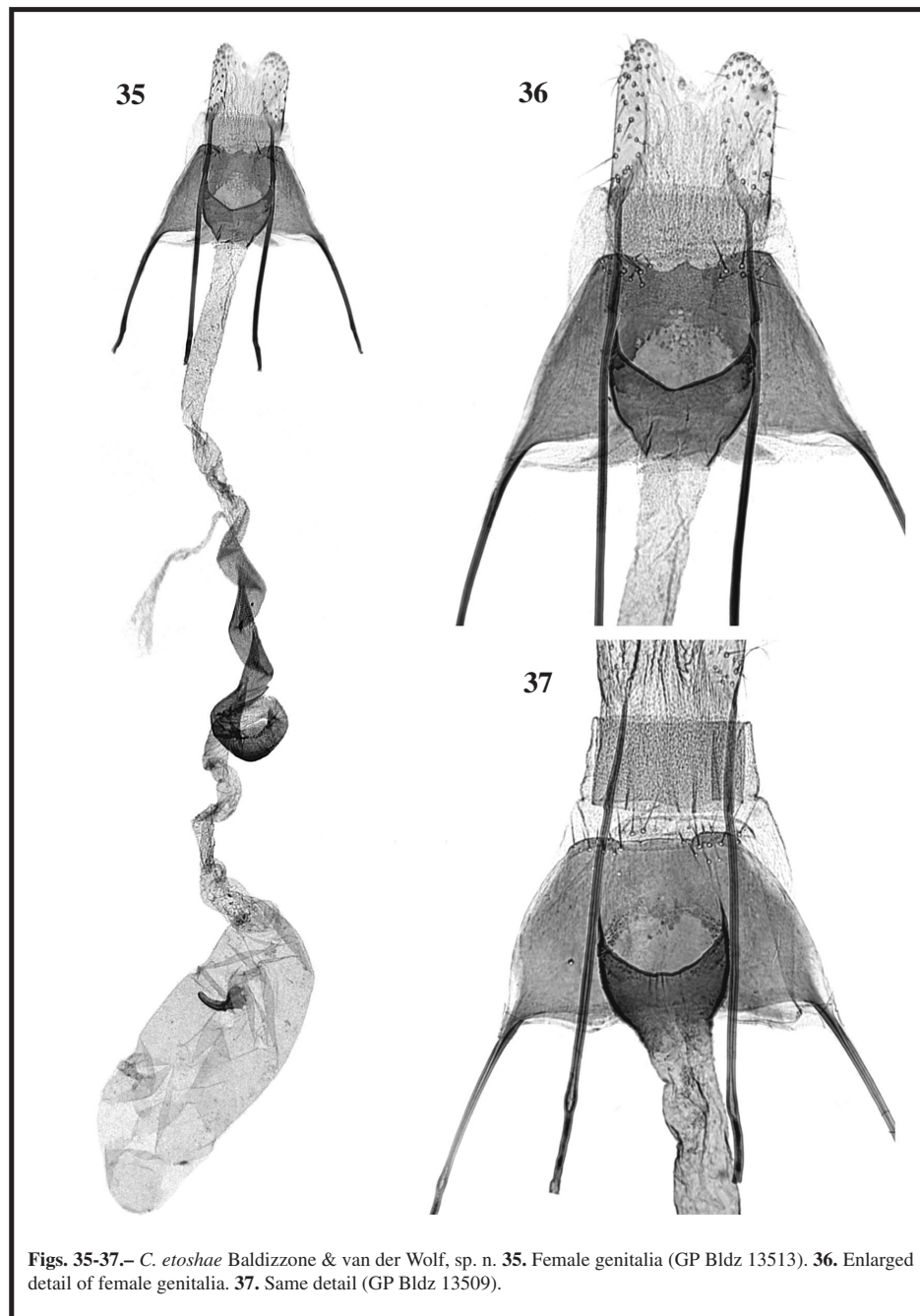
**Figs. 27-29.**— *C. capitensis* Baldizzone & van der Wolf, sp. n. **27.** Female genitalia (GP Bldz 13567). **28.** Enlarged detail of female genitalia. **29.** Abdomen.

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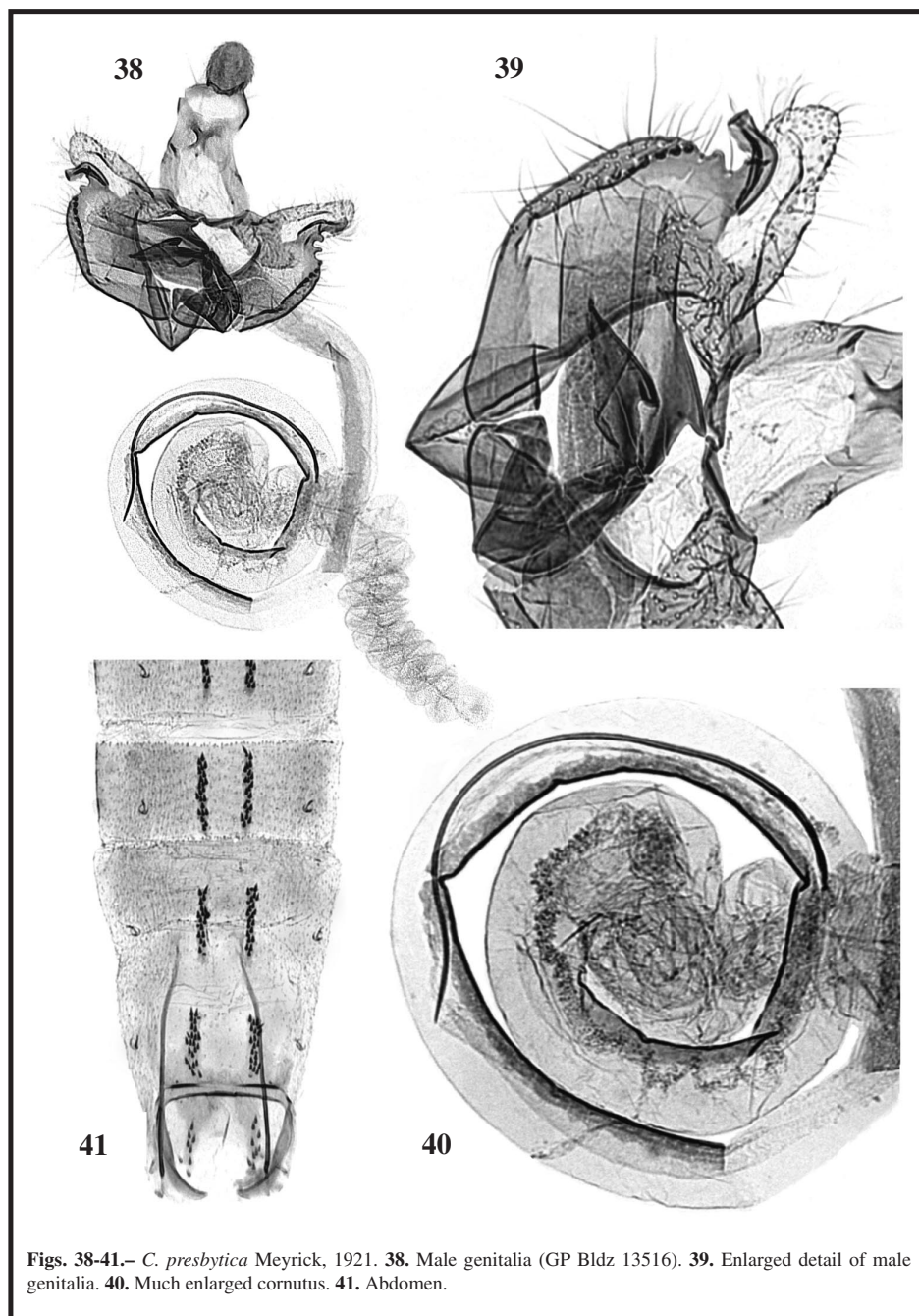
**Figs. 30-34.**— *C. etoshae* Baldizzone & van der Wolf, sp. n. **30.** Male genitalia (GP Bldz 13514). **31.** Enlarged detail of male genitalia. **32.** Same detail (GP Bldz 13541). **33.** Enlarged cornuti (GP Bldz 13541). **34.** Abdomen (GP Bldz 13514).

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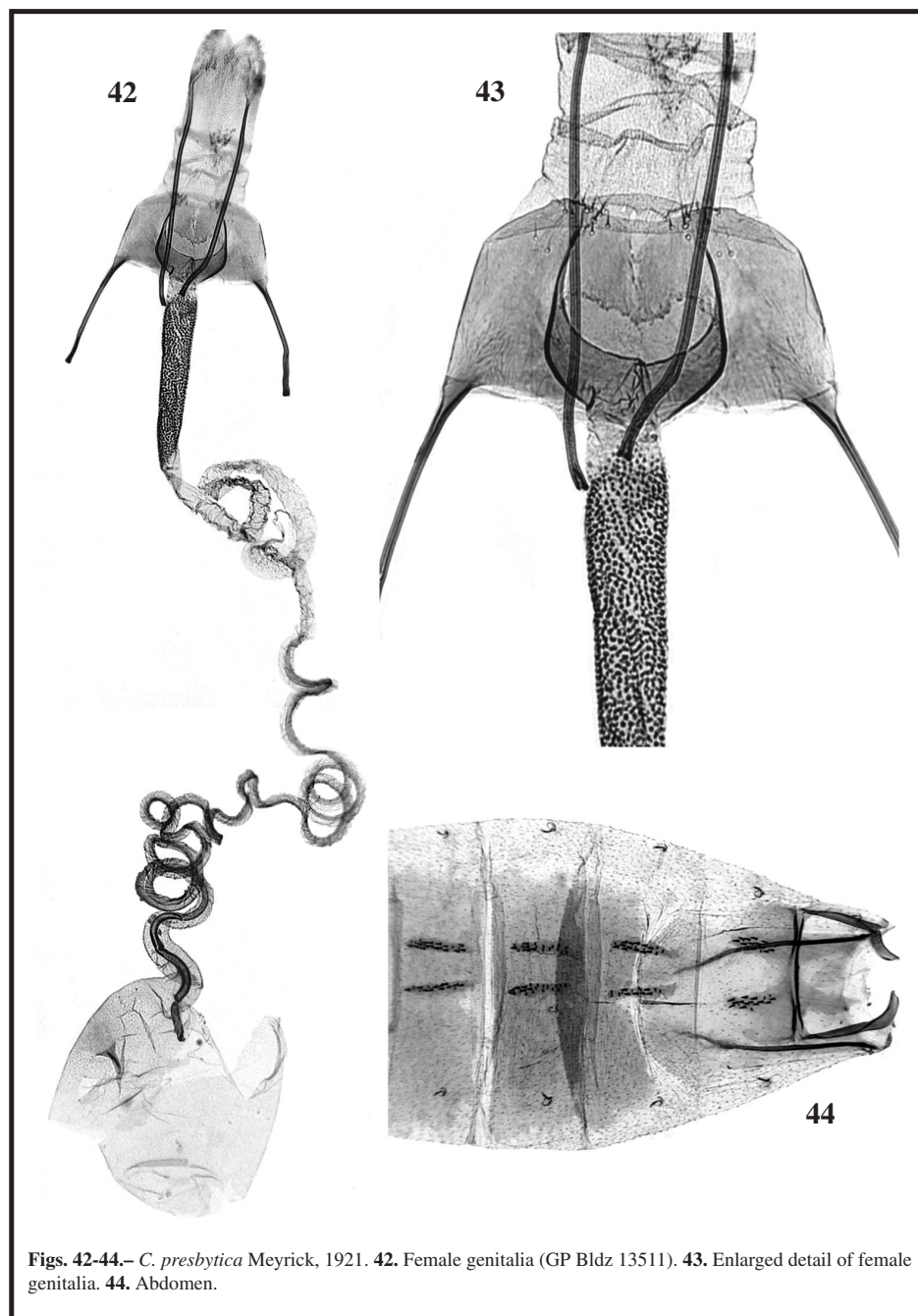
**Figs. 35-37.**— *C. etoshae* Baldizzone & van der Wolf, sp. n. **35.** Female genitalia (GP Bldz 13513). **36.** Enlarged detail of female genitalia. **37.** Same detail (GP Bldz 13509).

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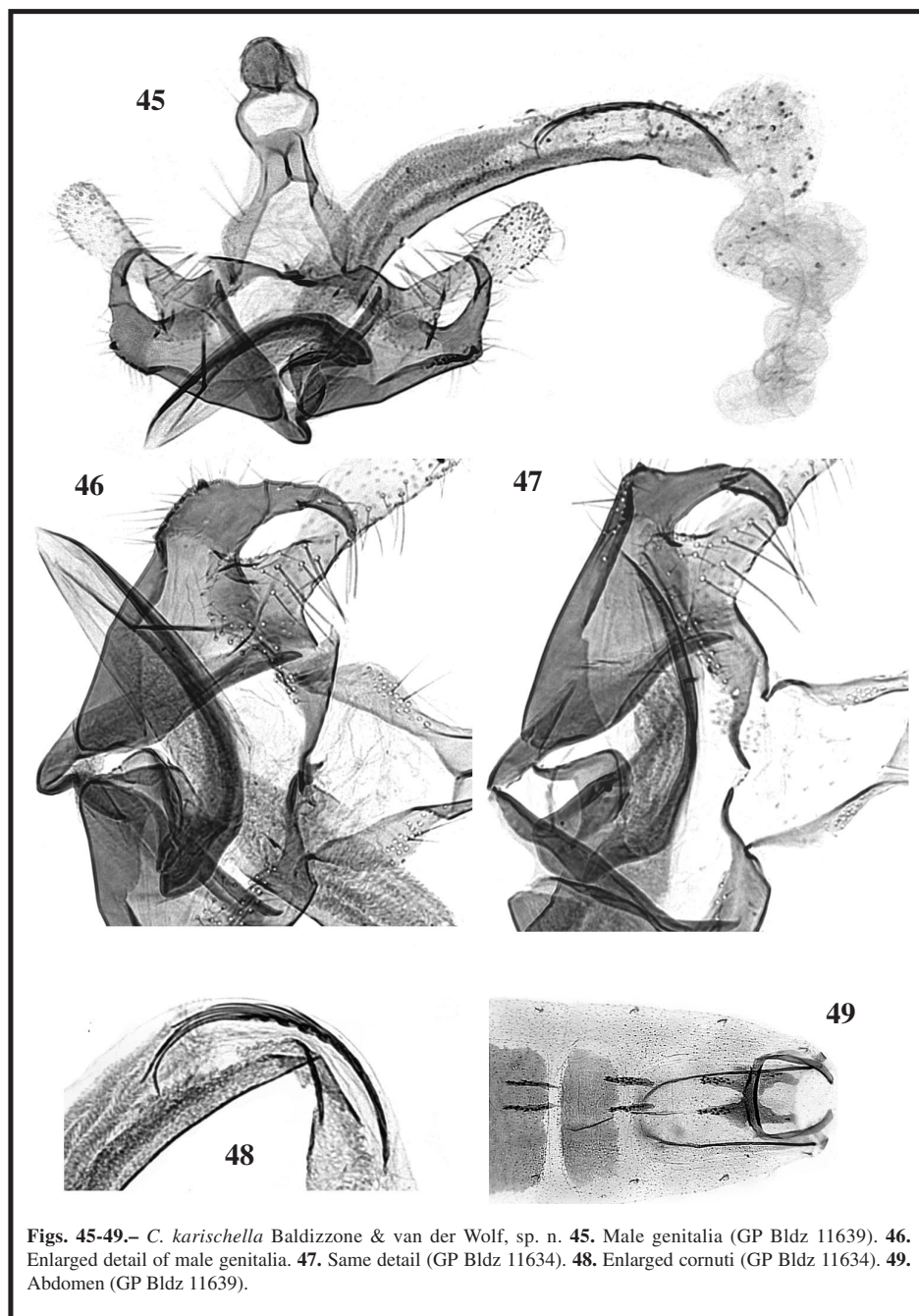
**Figs. 38-41.**— *C. presbytica* Meyrick, 1921. **38.** Male genitalia (GP Bldz 13516). **39.** Enlarged detail of male genitalia. **40.** Much enlarged cornutus. **41.** Abdomen.

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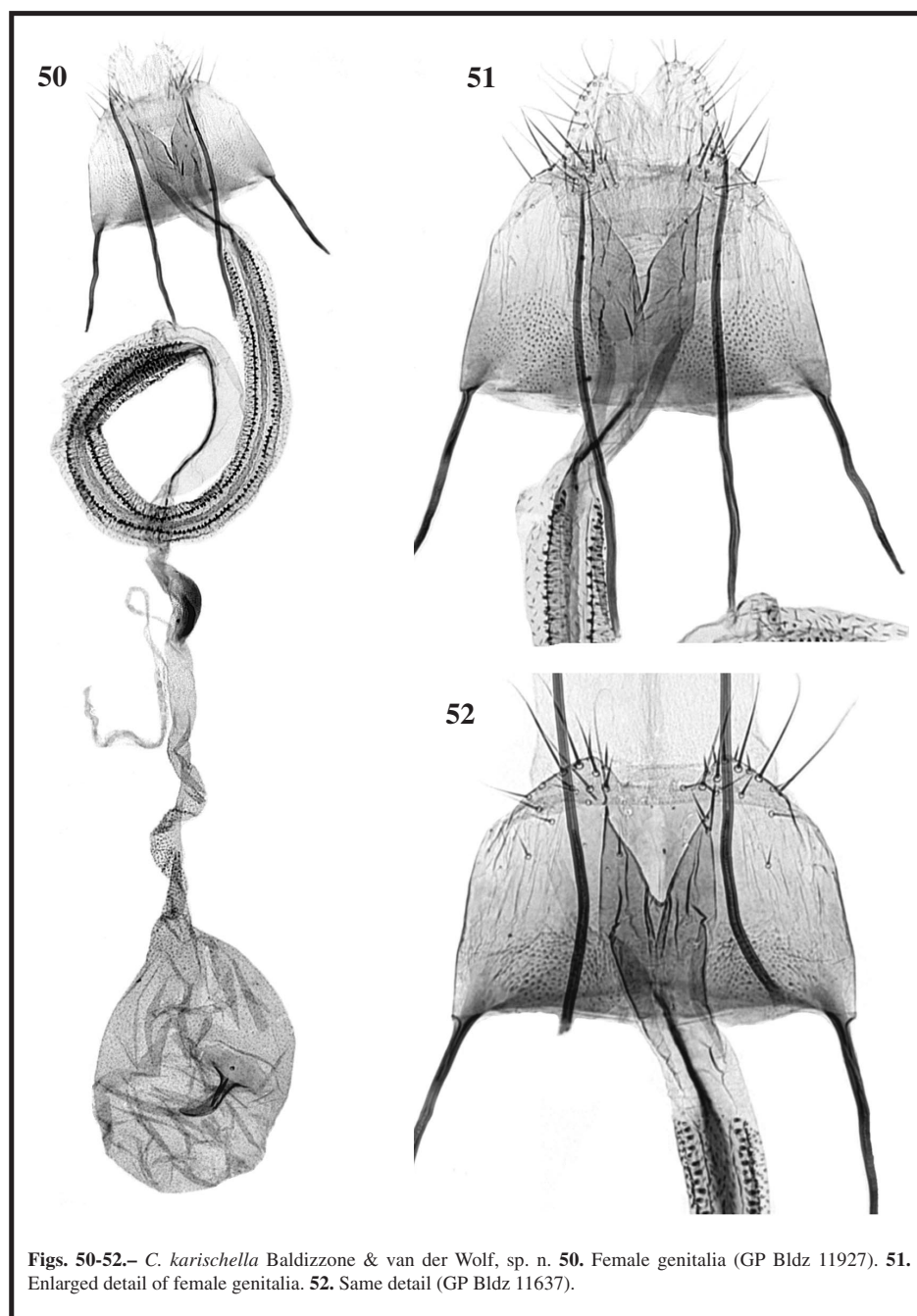


**Figs. 42-44.**– *C. presbytica* Meyrick, 1921. **42.** Female genitalia (GP Bldz 13511). **43.** Enlarged detail of female genitalia. **44.** Abdomen.

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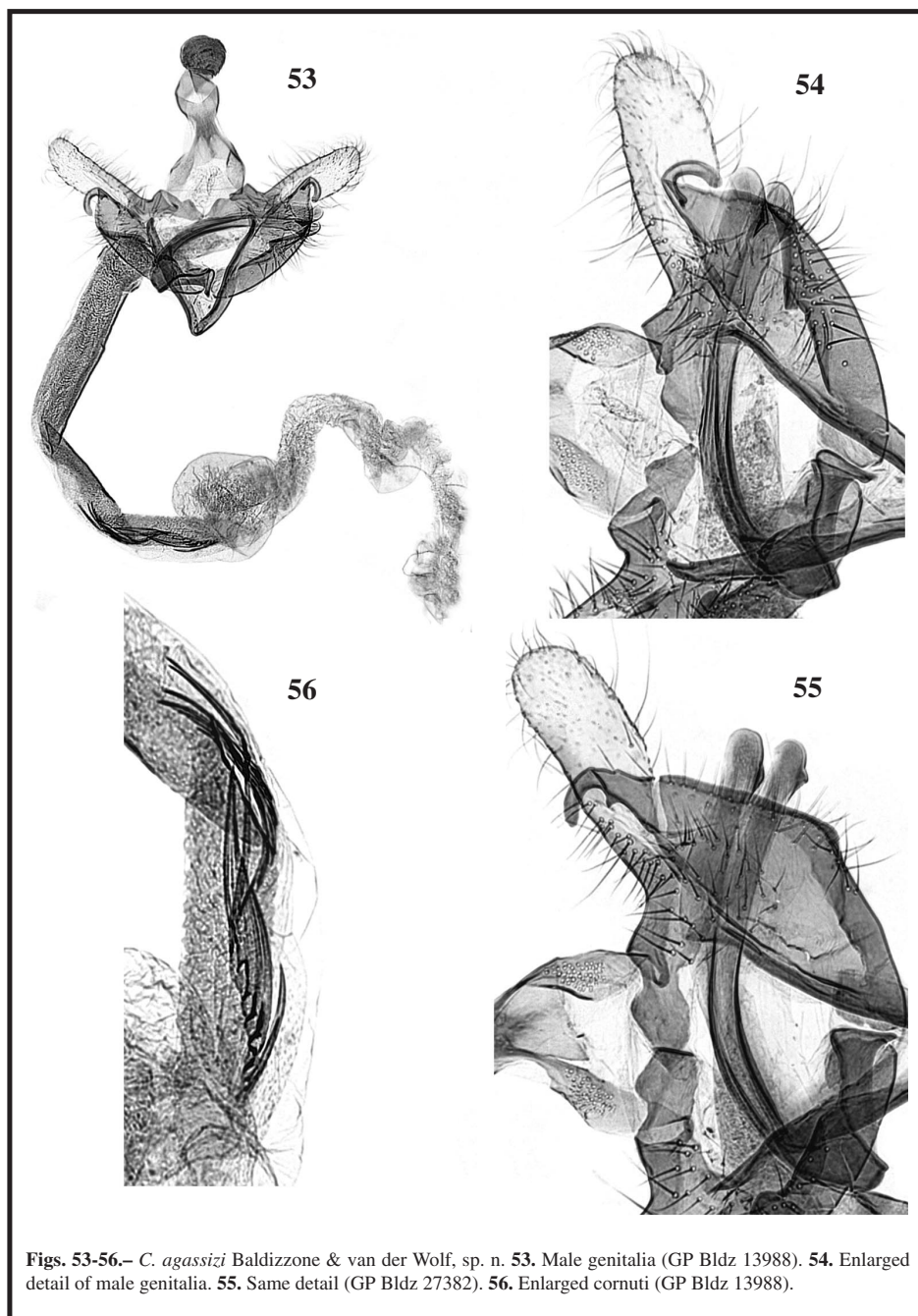


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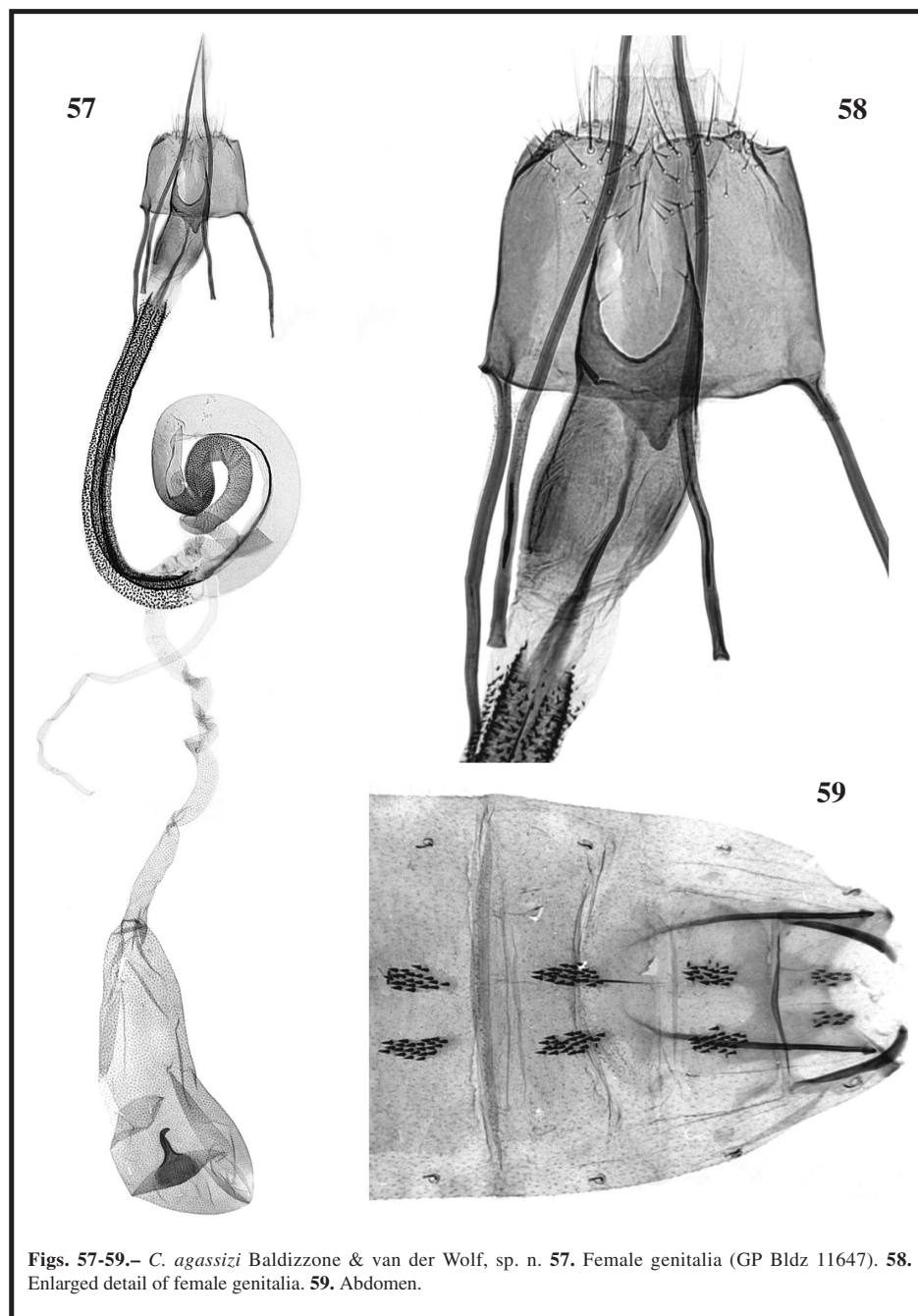
**Figs. 50-52.**— *C. karischella* Baldizzone & van der Wolf, sp. n. **50.** Female genitalia (GP Bldz 11927). **51.** Enlarged detail of female genitalia. **52.** Same detail (GP Bldz 11637).

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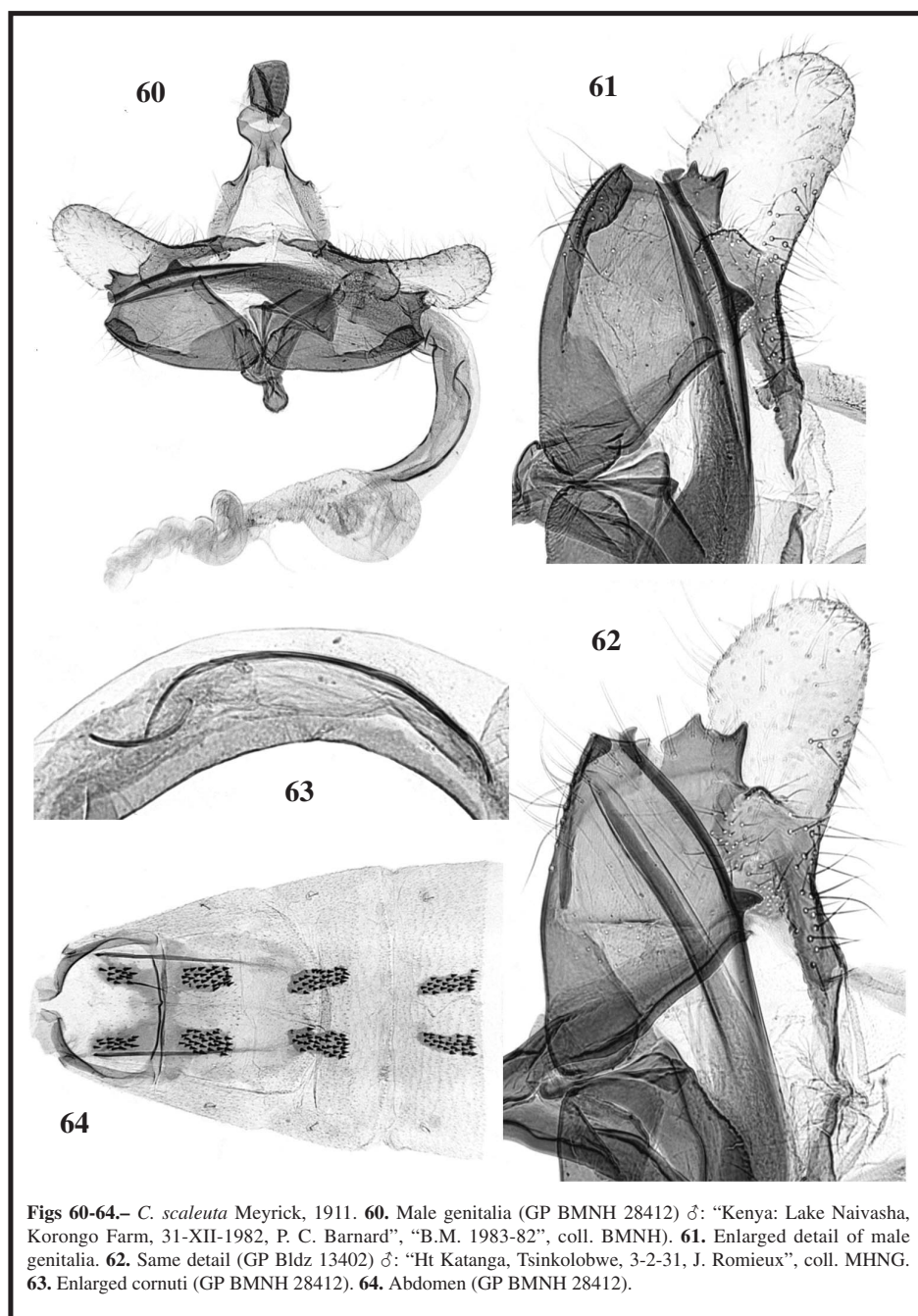
**Figs. 53-56.**— *C. agassizi* Baldizzone & van der Wolf, sp. n. **53.** Male genitalia (GP Bldz 13988). **54.** Enlarged detail of male genitalia. **55.** Same detail (GP Bldz 27382). **56.** Enlarged cornuti (GP Bldz 13988).

ON AFROTROPICAL COLEOPHORIDAE (I)



**Figs. 57-59.**— *C. agassizi* Baldizzone & van der Wolf, sp. n. **57.** Female genitalia (GP Bldz 11647). **58.** Enlarged detail of female genitalia. **59.** Abdomen.

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ON AFROTROPICAL COLEOPHORIDAE (I)

